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Application No.: 10/821588

Case No.: 55476US041

REMARKS

Claims 1 and 2 are pending. Claims 3 and 4 have been canceled. Claim 1 is amended. Entry of the amendments and reconsideration of the application after the Final Office Action are respectfully requested.

A Request for Continued Examination (RCE) accompanies this response.

§ 102 Rejections

Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as being unpatentable over Cheatham (US 2,053,601).

Claim 1 has been amended. The rejection of claims 1 and 2 is avoided.

Cheatham describes a method for coating paper where smoothing rolls, traveling in either direction, which are gear driven with an adjustable felt web in contact with the side opposite the coating. There is no disclosure in Cheatham of a train of three or more pick-and-place devices of different sizes that contact and re-contact the coating to improve the longitudinal uniformity of a wet coating on a substrate having a direction of motion. Rather, Cheatham teaches six smoothing rollers (15-20) similar in size supported by roll B, and in frictional engagement (driven) with roll B as illustrated in Figures 2 and 3. The extent of roller(s) contact for coating smoothing on one side of the paper in Cheatham may be affected on the opposite side of the film by a movable felt web. It would not inherently enable one of ordinary skill in the art to choose the smoothing station of Cheatham to improve the longitudinal uniformity of a wet coating with a train of three or more pick-and-place rollers.

In this disclosure, the longitudinal uniformity of the coating refers to the direction of substrate travel. Cheatham, however refers to smoothing rolls (15-20), which reciprocate longitudinally transverse to the direction of substrate to cause rubbing and smoothing of the coating and to break up uneven accumulations of the film on roll B (col.4, lines 37-41). However, the longitudinal coating uniformity of this disclosure is accomplished with pick-and-place devices contacting and re-contacting a wet coating on a substrate along the direction of substrate travel. The mechanism of smoothing a coating by Cheatham does not anticipate the claims of this disclosure.

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Cheatham does not teach an improvement station for improving the longitudinal uniformity of a wet coating on a substrate having a direction of motion comprising three or more pick-and-place devices of different sizes that contact the wet coating at a first position on the substrate, and re-contact the wet coating at positions on the substrate whose lengths along the substrate with respect to the first position are not the same or integer multiples of one another. In Cheatham, the smoothing rollers (15-20), of similar size, longitudinally reciprocate transverse to the direction of substrate motion to rub and further smoothen the coating. Cheatham does not describe nor teach pick-and-place devices which contact the substrate at lengths along the substrate for longitudinal coating uniformity.

Cheatham discloses smoothing rolls of different surface characteristics (col. 4, lines 52-67) rather than smoothing rolls of different sizes. The surface characteristics, such as being covered with a cloth, felt, or other soft material, of a smoothing roll are not inherently the same as the size (e.g. diameter) or length of a pick-and-place device of this disclosure.

With these differences, claim 1 (and the claims dependent therefrom) as amended has significant distinguishing features recited above, which are not found in Cheatham. Claims 1 and 2 are novel over Cheatham.

§ 103 Rejections

The rejection of claims 3 and 4 under U.S.C. 103(a) over Cheatham (US 2,053,601) is moot in view of the cancellation of these claims.

Claim 1 is rejected under U.S.C. 103(a) as being unpatentable over Hall (GB 1278099).

Claim 1 has been amended. The rejection of claim 1 is avoided.

Hall teaches a method and apparatus for coating a film material using smoothing rollers for smoothing out a layer of coating on a film. There are substantial differences between the disclosure of Hall and claim 1 of Applicant's disclosure. In Hall, there is no suggestion or motivation to use: 1) a train of 3 or more pick-and-place devices; 2) pick-and-place devices of different sizes; 3) pick-and-place devices which contact and re-contact the wet coating on a substrate at positions on the substrate whose lengths with respect to the first position are not the same or integer multiples of one another.

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Rather, Hall describes smoothing rollers (3) where the surface of the roll contacts the film (1), and each roller (3) is reciprocated in its axial direction transverse to the direction of travel of the film (1). The rollers (3) of Hall do not apply a coating with a train of three or more pick-and-place devices, but rather uses three or more rollers (3) vertically aligned on one or more sides of a film (1) material as illustrated in figure 1. Hall further teaches rollers (3) of the same size, where the rollers (3) are out of phase with one another as they reciprocate in the axial direction, in contrast to the pick-and-place devices of different sizes of this disclosure. Thirdly, Hall describes a set of rollers (3) vertically aligned, on a vertical camshaft, on each side of a film which reciprocate similarly, but in the opposite direction of each other. The rollers (3) of Hall perform unlike the pick-and-place devices of this disclosure, where the devices individually contact and re-contact a wet coating on a substrate at positions on the substrate whose lengths with respect to the first position are not the same or integer multiples of one another.

Therefore, in order for Hall to arrive at claim 1, Hall would have to: 1) change from smoothing rolls vertically aligned with a vertical camshaft, where the rolls are located on one or both sides of the film material as a set, to a train of 3 or more individual pick-and-place devices, despite the lack of teaching; 2) change from smoothing rollers of the same size in a set to individual pick-and-place devices of different sizes, despite the absence of any teaching; and 3) change from smoothing rollers to individual pick-and-place devices, which contact the wet coating at a first position on the substrate and re-contact the wet coating on the substrate at positions other than the first position or integer multiples of one another, despite the lack of teaching. Again, there is no teaching in Hall which speaks of the inventive features claimed in this disclosure, and are not obvious to one of ordinary skill in the art.

Hall does not overcome a fundamental lack of a prima facie case of obviousness. The rejection of claim 1 under 35 USC § 103(a) as being unpatentable over Hall has been overcome and should be withdrawn.

Claim 2-4 are rejected under U.S.C. 103(a) as being unpatentable over Hall (GB 1278099) as applied to claim 1, and further in view of Cheatham (US 2,053,601).

The rejection of claims 3 and 4 is moot. The rejection of dependent claim 2 has been avoided by the amendment of claim 1.

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Hall has been described above.

Cheatham describes a method for coating paper where smoothing rolls are gear driven in either direction of substrate travel with an adjustable felt web in contact with the side opposite the coating. Cheatham further does not suggest nor provide motivation to use 1) - 3) listed in Hall above to improve the longitudinal uniformity of a wet coating on a substrate having a direction of motion. However, Cheatham suggests smoothing rolls which are driven in the opposite or same direction of travel of the substrate.

In order for one skilled in the art to arrive at claim 2 from the combination of Hall in view of Cheatham, he/she would have to change the smoothing rolls to include at least two pick-and-place devices, which rotate in the direction of substrate motion, from the three or more pick-and-place devices of different sizes from amended claim 1, that contact the wet coating at a first position on the substrate, and re-contact the wet coating at positions on the substrate whose lengths along the substrate with respect to the first position are not the same or integer multiples of one another. There is no teaching or suggestion from Hall in view of Cheatham to make these changes. These modifications are too great to be obvious to one of ordinary skill in the art.

Hall in view of Cheatham does not overcome the fundamental lack of a prima facie case of obviousness. The rejection of claim 2 under 35 USC § 103(a) as being unpatentable over Hall in view of Cheatham has been overcome and should be withdrawn.

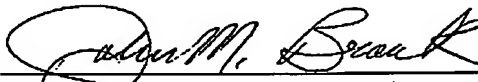
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CONCLUSION

In view of the above, it is respectfully submitted that claims 1 and 2, as amended, are in condition for allowance. Withdrawal of the rejections under 35 U.S.C. 102 and 103 is requested, and a notification of allowability is respectfully solicited. If any issues or questions remain, the resolution of which the Examiner feels would be advanced by a conference with Applicant's agent; she is invited to contact such agent at the telephone number noted below.

Respectfully submitted,

08/23/2006
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